

How can I create a Log-Log Plot in Excel?

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A Log-Log Plot is a graphical representation of data in which both the x and y axes are logarithmically scaled. This type of plot is commonly used to visualize data that spans a large range of values, as it allows for a more accurate representation of the data. To create a Log-Log Plot in Excel, first organize your data in two columns, with the x values in one column and the corresponding y values in the other column. Then, select the data and click on the "Insert" tab, followed by "Recommended Charts." From the list of charts, select "Scatter with Straight Lines and Markers." Next, right-click on the x-axis and select "Format Axis." In the "Axis Options" tab, select "Logarithmic scale" under the "Scale Type" section. Repeat this process for the y-axis. Your Log-Log Plot will now be displayed.

Create a Log-Log Plot in Excel

A log-log plot is a that uses logarithmic scales on both the x-axis and the y-axis.

This type of plot is useful for visualizing two variables when the true relationship between them follows a power law. This phenomenon occurs in many fields in real life including astronomy, biology, chemistry, and physics.

This tutorial shows how to create a log-log plot for two variables in Excel.

Example: Log-Log Plot in Excel

Suppose we have the following dataset in Excel that shows the values for two variables, x and y:

	A	B	C	D	E
1	x	y			
2	1	800			
3	1	730			
4	2	400			
5	2	390			
6	3	240			
7	4	200			
8	4	190			
9	5	130			
10	6	100			
11	7	80			
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

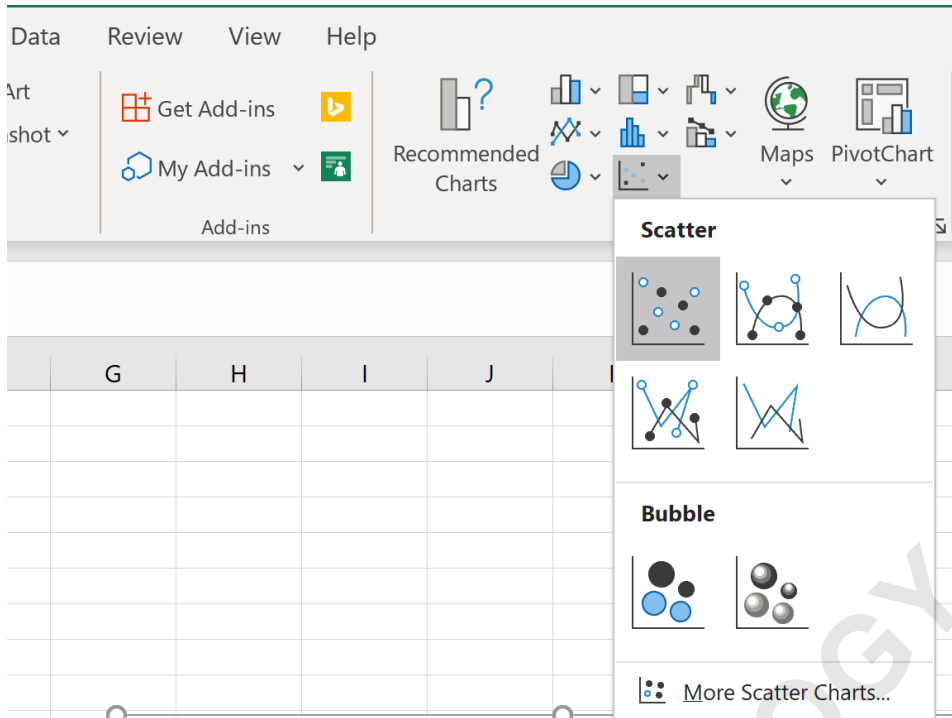
Use the following steps to create a log-log plot for this dataset:

Step 1: Create a scatterplot.

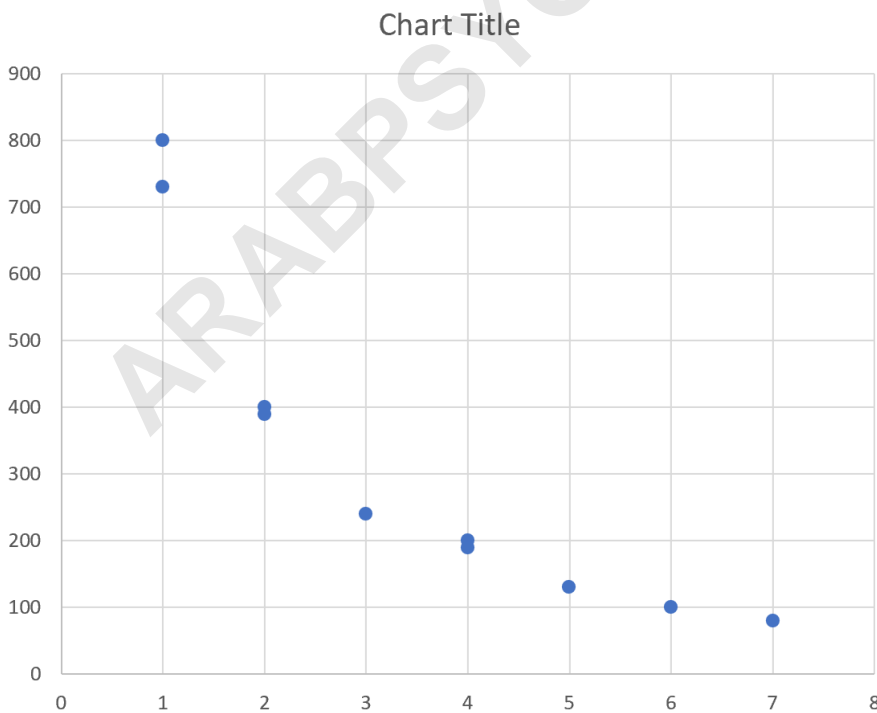
Highlight the data in the range A2:B11.

	A	B	C	D	E	F
1	x	y				
2	1	800				
3	1	730				
4	2	400				
5	2	390				
6	3	240				
7	4	200				
8	4	190				
9	5	130				
10	6	100				
11	7	80				
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

Along the top ribbon, click the Insert tab. Within the Charts group, click on Scatter.

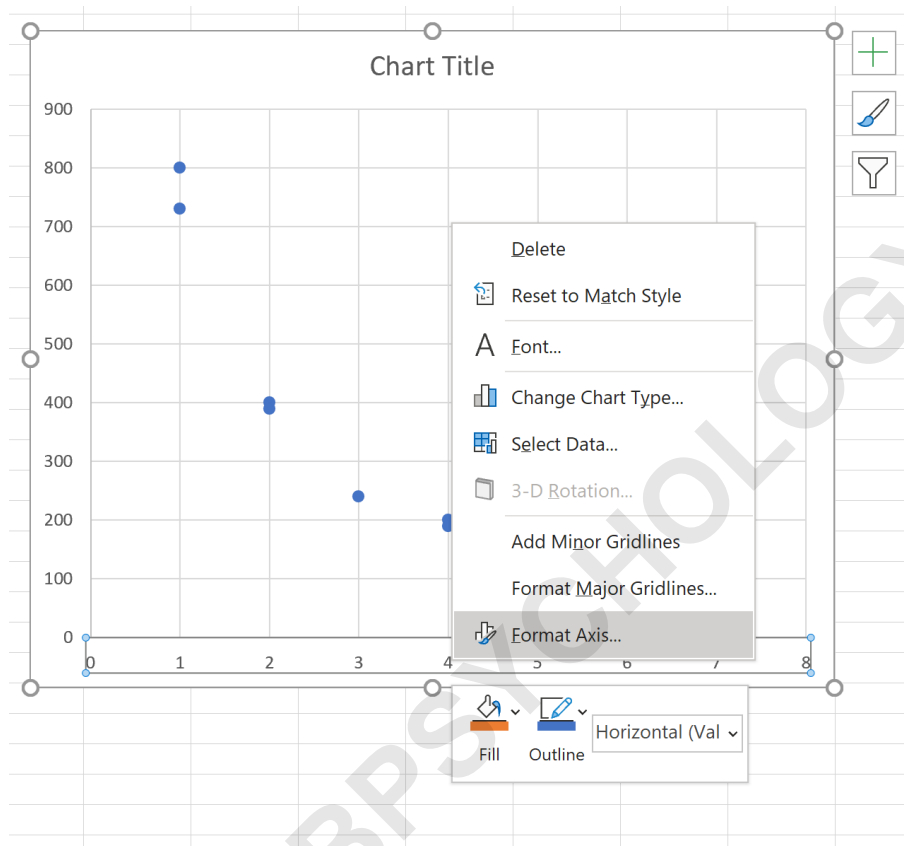


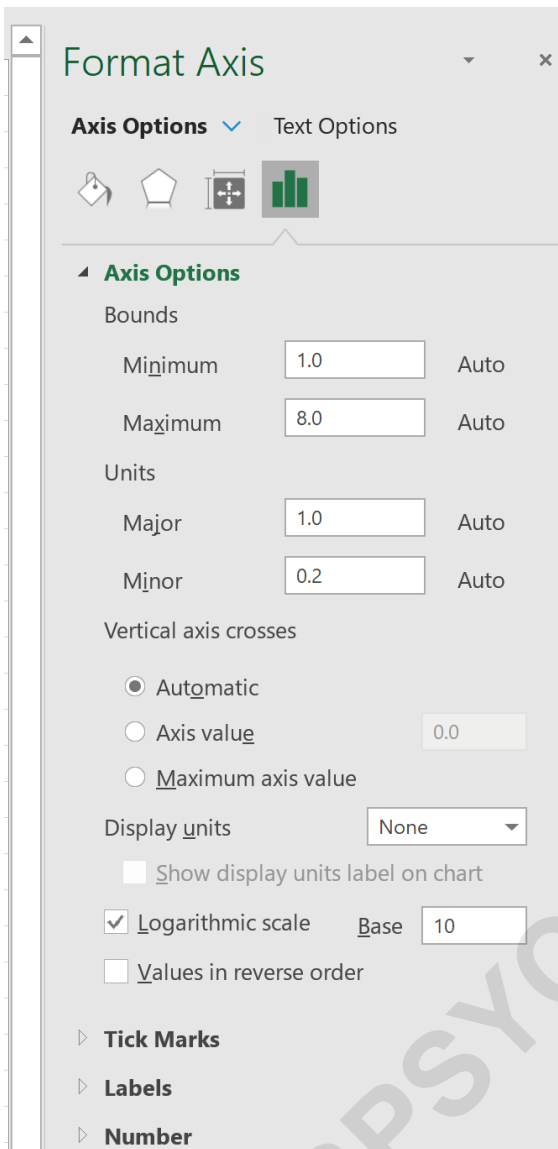
The following scatterplot will automatically appear:



Step 2: Change the x-axis scale to logarithmic.

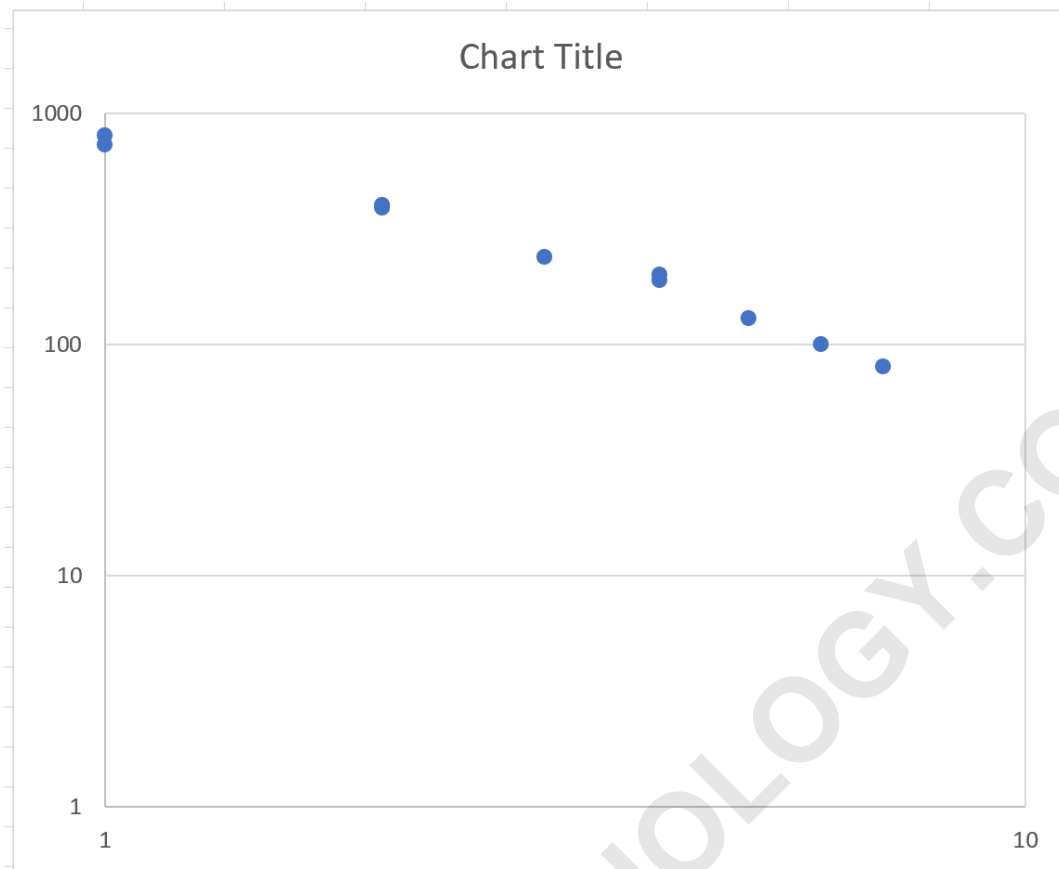
Right click on the values along the x-axis and click **Format Axis**.





Step 3: Change the y-axis scale to logarithmic.

Next, click on the y-axis and repeat the same step to change the y-axis scale to logarithmic. The resulting plot will look like this:



Notice that the x-axis now spans from 1 to 10 while the y-axis spans from 1 to 1,000. Also notice how the relationship between the variables x and y now appears more linear. This is an indication that the two variables do indeed have a power law relationship.

You can find more Excel tutorials .